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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/685,412 | 10/10/2000 | Koji Hasegawa | SONY-U0256 | 4878 |

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ALEXANDRIA, VA 22314

EXAMINER

TRAN, KHANH C

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2631

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DATE MAILED: 11/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

KS

Office Action Summary

Application No.

09/685,412

Applicant(s)

HASEGAWA ET AL.

Examiner

Khanh Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-9 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 3,4,10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-2, 5-9, and 12-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Krasner U.S. Patent 6,064,336.

Regarding claim 1, Krasner discloses, in column 2, line 64 through column 3, line 16, a mobile GPS receiver receives a precision carrier frequency signal from a source providing the precision carrier frequency signal. The receiver locks to this frequency signal and provides a reference signal that is used to calibrate a local oscillator that is used to acquire GPS signals. Evidently, the teachings address the step of acquiring high precision frequency information as claimed in the instant application. Inherently, calibrating a local oscillator utilizing the reference signal would involve in measuring frequency variation or frequency offset of the local oscillation frequency. The calibrated local oscillator is then used to acquire GPS signals.

Regarding claim 2, figure 6A shows an embodiment of a GPS mobile unit of the present invention that utilizes the precision carrier frequency signal received through the

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communication channel antenna 601. The automatic frequency control unit (603) provides an output 604, which is typically locked in frequency to the precision carrier frequency. The signal 604 is compared by the comparator 605 to the output of the GPS local oscillator 606. The result of the comparison performed by the comparator 605 is an error correction signal 610 that is provided as a correction signal to the GPS local oscillator 606. In this manner, the frequency synthesizer 609 provides a high quality, calibrated local oscillation signal to the GPS down converter 614. Krasner further teaches that the GPS local oscillator 606 and the frequency synthesizer 609 may together be considered a local oscillator that provides a GPS clock signal that is inputted to the down-converter to acquire the GPS signals received through the GPS antenna. That clearly addresses the step of acquiring high precision time information. Furthermore, after acquiring GPS signals, the GPS mobile unit in figure 6A inherently performs positioning arithmetic operation as most of GPS receivers normally do.

Regarding claim 5, figure 7 illustrates a particular sequence of power management implemented in a remote receiver 20, shown in figure 1A, wherein the remote receiver 20 may employ, as shown in figure 6, an automatic frequency control (AFC) loop to lock onto a precision carrier frequency and thereby further calibrate its own reference oscillator by correcting the output frequency of the GPS local oscillator that is used to acquire GPS signals. In the power management scheme, Krasner discloses that there are numerous ways in order to reduce power, including slowing down the clock provided to a synchronous, clocked component as well as completely shutting down power to a particular component or turning off certain circuits of a

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component but not others. Hence, keeping the power supplying to frequency oscillator 38 of the remote receiver 20 would be inherent for calibration purposes.

Regarding claims 6-7, figure 6B shows another embodiment of a mobile GPS unit for calibrating the GPS local oscillator used to acquire the GPS signals in the mobile unit. In column 13, line 56 through column 14, line 13, a Costa Loop Demodulator 648 and Temperature Compensated Voltage Controlled Oscillator (TCVCXO) 645 employed in the Carrier Phase locking section 640 is phase-locking the incoming signal's carrier frequency. The Costa loop provides a frequency correction voltage to the reference frequency generator TCVCXO 645 that causes the output of TCVCXO 645 to be phase and frequency aligned with the carrier frequency. The output of TCVCXO 645 is then used to calibrate the GPS local oscillator.

Regarding claim 8, said claim is rejected using similar rejection argument of claim 1. Furthermore, figure 6A shows a GPS mobile unit including a wireless modem 602 having an automatic frequency control circuit 603 for locking in frequency to a precision carrier frequency; a GPS receiving section having a GPS down-converter, a GPS local oscillator 606, a frequency synthesizer 609; a comparator 605 for producing an error correction signal 610 that is provided as a correction signal to the GPS local oscillator 606.

Regarding claim 9, said claim is rejected using similar rejection argument of claim 2.

Regarding claim 12, said claim is rejected using similar rejection argument of claim 5.

Regarding claim 13, said claim is rejected using similar rejection argument of claim 6.

Regarding claim 14, said claim is rejected using similar rejection argument of claim 7.

Allowable Subject Matter

2. Claims 3-4 and 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Drawings

3. Figure 13A should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. Figure 13B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid

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abandonment of the application. The objection to the drawings will not be held in abeyance.

5. Figure 13C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. Figure 13D should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. Figure 13E should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

8. Figure 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Durboraw, III et al. U.S. Patent 6,178,195 B1 discloses "Method and Apparatus for Detecting Spread Spectrum Signals using a Signal from a Secondary Source".

Welles, II et al. U.S. Patent 5,864,315 discloses "Very Low Power High Accuracy Time and Frequency Circuits in GPS Based Tracking Units".

King U.S. Patent 6,300,899 B1 discloses "Fixed Site Data-Aided GPS Signal Acquisition Method and System".

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 703-306-3034. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT


KHAI TRAN
PATENT EXAMINER